

CLAIMS

1. A process for preparing a catalyst for partial oxidation of propylene and isobutylene represented by the following Chemical Formula 1, which process comprises the steps of:

- 5 a) dissolving a metal salt comprising
- i) a molybdenum salt,
- ii) a bismuth salt,
- iii) an iron salt,
- iv) one or more kinds of salts of metals selected from the group
- 10 consisting of cobalt, tungsten, vanadium, antimony, and nickel, and
- v) one or more kinds of salts of metals selected from the group
- consisting of potassium, rubidium, and cesium,
- in a nitric acid aqueous solution or in an organic acid solution to
- prepare a catalyst suspension;
- 15 b) drying the catalyst suspension of step a) in a microwave oven;
- c) pulverizing and molding the dried catalyst of step b); and
- d) calcining the catalyst powder obtained in step c)

[Chemical Formula 1]



20 (wherein X is cobalt, tungsten, vanadium, antimony, or nickel,

 Y is potassium, rubidium, or cesium,

 each of a, b, c, d, and e represents the atomic mole ratio of each metal, and

 when a is 12, b is 0.5~2, c is 0.5~2, d is 3~8, and e is 0.005~0.2,

and f is determined according to oxidation state of each metal.)

2. The process for preparing a catalyst for partial oxidation of propylene and iso-butylene according to Claim 1, wherein the step b) comprises drying the solution in a microwave oven with a wavelength of 600 MHz to 2.5GHz.

5 3. The process for preparing a catalyst for partial oxidation of propylene and iso-butylene according to Claim 1, wherein the drying of step b) is carried out for 30 seconds to 5 minutes, for 10 mL of the catalyst suspension.

4. The process for preparing a catalyst for partial oxidation of propylene and iso-butylene according to Claim 1, wherein the catalyst has a surface area of
10 10 to 20 m²/g.

5. A catalyst for partial oxidation of propylene and iso-butylene represented by the following Chemical Formula 1, which is prepared by the process of Claim 1:

[Chemical Formula 1]

15 $\text{Mo}_a\text{Bi}_b\text{Fe}_c\text{X}_d\text{Y}_e\text{O}_f$

(wherein X is cobalt, tungsten, vanadium, antimony, or nickel;

Y is potassium, rubidium, or cesium;

each of a, b, c, d, and e represents the atomic mole ratio of each metal, and when a is 12, b is 0.5~2, c is 0.5~2, d is 3~8, and e is 0.005~0.2; and f is

20 determined according to the oxidation state of each metal.)